A Problem on the Rise

Prenatal substance use is a major problem around the country and particularly in East Tennessee. More babies are being born with drug-related birth defects every year. The number of infants diagnosed with neonatal withdrawal increased from 7,653 in 1995 to 11,937 in 2008 nationally (Hudak & Tan, 2012).

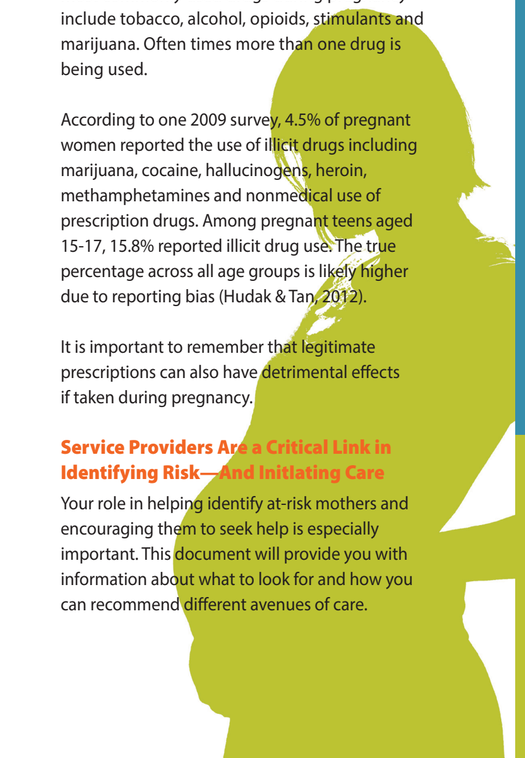
Drugs and other substances ingested, injected, inhaled or that otherwise get into the mother's system can easily cross the placenta into the developing fetus' bloodstream. These substances are also passed from mother to child through her milk. Any substance a pregnant woman takes has the potential to harm the baby. Some of the most commonly used drugs during pregnancy include tobacco, alcohol, opioids, stimulants and marijuana. Often times more than one drug is being used.

According to one 2009 survey, 4.5% of pregnant women reported the use of illicit drugs including marijuana, cocaine, hallucinogens, heroin, methamphetamines and nonmedical use of prescription drugs. Among pregnant teens aged 15-17, 15.8% reported illicit drug use. The true percentage across all age groups is likely higher due to reporting bias (Hudak & Tan, 2012).

It is important to remember that legitimate prescriptions can also have detrimental effects if taken during pregnancy.

Service Providers Are a Critical Link in Identifying Risk—And Initiating Care

Your role in helping identify at-risk mothers and encouraging them to seek help is especially important. This document will provide you with information about what to look for and how you can recommend different avenues of care.



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IMPORTANT:

Tennessee's Fetal Assault Law on Pregnancy and Addiction sunset on July 1, 2016, but the Safe Harbor Act remains.

The Safe Harbor Act of 2013 states that if a woman enters both prenatal care and addiction treatment by her 20th week of pregnancy, she will not lose custody of her child solely due to her drug use.

Women need to be encouraged to seek care as early as possible.

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Prenatal Substance Use

A Guide for Service Providers

Facts for You and Your Patients

General Effects of Substance Use During Pregnancy

Women that use drugs during pregnancy often have other medical problems that can compromise the fetus. Pregnant women who use substances are at an increased risk for hypertension, pre-eclampsia, anemia, hepatitis, spontaneous abortion and even birthing stillborn fetuses. They also tend to receive less prenatal care.

Many substances including stimulants, opioids, tobacco, and marijuana cause generalized vasoconstriction that greatly reduces the blood and oxygen supply to the fetus.

Soon after birth, infants that were exposed to drugs in utero tend to be more irritable and are less able to self-regulate.

There is a broad spectrum of infant outcomes due to the many factors that must be taken into consideration like concomitant abuse of tobacco or other drugs, the dose and frequency of substances ingested and the mother's metabolism.

Infants born to women that were using drugs or substances during pregnancy are themselves more likely to start abusing drugs as adults.

TOBACCO

According to Minnes, Lang, & Singer, 2011, 16.4% of women in the United States smoke tobacco during their pregnancy. Tobacco use during pregnancy increases the risk for complications like ectopic pregnancy, placenta previa and increases mortality from preeclampsia.

There are numerous harmful effects to the infant including low birth weight, premature delivery, an increased risk for SIDS, increased excitability and decreased soothability.

Once these children reach school age, they tend to have lower IQs and have higher rates of ADD, ADHD, conduct disorder, depression and anxiety. It has been demonstrated on MRI that at ages 10-14 these children have smaller head circumferences along with reduced grey matter volumes.

Heavy tobacco use combined with opioid use during pregnancy results in more severe withdrawal symptoms after birth.

MARIJUANA

Marijuana exposure in utero causes some mild effects to the newborn child. They may exhibit mild withdrawal symptoms and trouble with alertness. Later on, these children have difficulty with reading and spelling and impairment with executive function. These negative consequences have been observed to last past the 16th year of life.

These children try tobacco and marijuana at an earlier age.

Marijuana use during pregnancy does not cause any major abnormalities with growth or physical development.

OPIOIDS

Opioid use not only happens through street drugs like heroin but more commonly through abuse of prescription narcotics. This is an enormous problem in East Tennessee.

Prescriptions for hydrocodone and oxycodone increased nationally by 400% between 1992 and 2002. Although the majority of these serve legitimate medical purposes, the greater number of prescriptions also means more opportunity for abuse by patients and greater black-market circulation than ever before.

Opioids are able to cross the placental barrier and the level in the fetus' system can be even higher than that of the mother's system because the immature fetus is unable to break down the drug and eliminate it as quickly.

During pregnancy, opioid use causes reduced blood flow and transmission of oxygen and nutrients to the placenta due to vasoconstriction. After birth, most neonates exposed to opioids will experience withdrawal symptoms. Signs of withdrawal include hyperirritability of the central nervous system, seizures, dysfunction of the gastrointestinal tract, respiratory distress, low birth weight, short length and small head circumference, sneezing and stuffiness, a poor sucking ability and high-pitched cry. These withdrawal symptoms often necessitate a prolonged hospital stay, which may compromise mother-infant attachment and cause family disruption.

Children that are exposed to opioids in utero have trouble with memory and learning, problems adapting to new situations, personality disorders and higher rates of ADD and ADHD. It is common that these problems last into adulthood.

*Although Gabapentin is not a scheduled narcotic, recent studies reveal that a newborn can show signs of severe withdrawal after prolonged in utero exposure to Gabapentin.

COCAINE

Cocaine abuse during pregnancy can be very detrimental to the exposed child. It can cause premature rupture of membranes and placental abruption, as well as fetal distress, intrauterine growth restriction and preterm delivery.

The neonate may have impaired eye opening, slower reflexes, disorientation, attention deficits, cognitive delay and increased lethargy. During childhood, they tend to have low weight, trouble with reasoning, higher rates of ADD and ADHD and aggressive behavior.

METHAMPHETAMINE/AMPHETAMINE

According to Slaberova, 2012, 38% of women who use meth in the United States have used it during a pregnancy. Amphetamine use during pregnancy restricts the supply of blood, oxygen and nutrients to the fetus.

Pregnant women that use amphetamines also have an increased risk to have a stillborn child, and also have the same pregnancy risks faced by cocaine-exposed fetuses. Infants exposed to amphetamines in utero have higher rates of birth defects like cleft lip and congenital heart malformations, low birth weight, decreased head circumference and cryptorchidism. They are also hyperirritable, have increased tone and have a hard time adapting and reacting to stress.

Later on, these children experience learning deficiencies, impaired memory, delayed development of the anterior pituitary gland and may even have a decreased volume of subcortical structures when compared to non-exposed children.

SOLUTIONS & TREATMENT

Clearly there is a problem with pregnant women using both prescription and illicit substances that are harmful to their offspring. The best way to prevent this problem is to talk to all female patients about drugs and addiction, and prevent addiction before pregnancy occurs.

If you're unable to help the patient quit using, then it is imperative to talk to her about preventing pregnancy and the dire consequences her behavior would have on a developing fetus. In addition, when women present for prenatal counseling, it is very important to obtain a complete list of prescription and illicit drugs, as well as supplements they are taking. This way any teratogenic prescriptions or supplements can be removed from their regimen, especially focusing on opioids and benzodiazepines.

For women that present during pregnancy and using harmful substances, there are actions that can be taken to help them quit:

Tobacco: Contingency management strategies have been shown to be very effective. Cognitive behavioral therapy is another option and nicotine replacement therapy can be considered if the benefits outweigh the risks.

Marijuana: Contingency management and cognitive behavioral therapy have been shown to be effective.

Stimulants: Again, contingency management can be used and these patients should also be referred for behaviorally-based substance abuse treatment.

Opioids: These patients can be treated and weaned off the drugs they are using with methadone or subutex. Unfortunately, these drugs still significantly affect the fetus and can cause withdrawal symptoms; however, the fetus tends to do better than when the mother is abusing heroin or uncontrolled doses of prescription opioids. The neonate will usually then need to be treated for the withdrawal syptoms by taking very low doses of morphine and then tapering off. It is also important for the mothers to receive behavioral therapy as part of a comphrehensive treatment program.

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